explicit routing advertisements. (Abstract, Crawley). A specific advantage provided by Crawley is described at column 2, lines 24-26 as it reduces "the resources used to generate, receive, process, and store network advertisements necessary for routing calculations..."

The office action states, in paragraph 3 "... however Crowley teachings of a routing table constructed based on the broadcast link-state advertisement packets between routers in multicast group and unicast group in a network area is not explicitly denoted "multicast routing table" and "unicast routing table..." It would have been obvious at the time the invention was made to implement prior art teaching to perform the same functions as claimed, motivation would be to implement a routing system for reducing routing calculations and thereby reduce the resources for storing, network advertisements necessary for routing calculations, as taught by Crawley..."

Modified reference neither describes nor suggests the claimed invention

Applicant's claim 1 recites "...A method of multicast routing, comprising receiving link state advertisements from routers in a network ... and constructing a multicast routing table and a unicast routing table from the received link state packets, and tables corresponding to a short path tree through multicast routers..." No such structure is shown or suggested by Crawley.

The Examiner relies on columns 1 and 2 of Crawley as describing the elements of the claims. However, Applicant notes that no mention is made in this section of "a multicast routing table" and a "unicast routing table" being used together. Rather, Crawley states that "When a router is connected to more than one area, it maintains a separate topology database for each connected area. A separate execution of OSPF's basic routing algorithm is performed in each area." (Crawley, col. 1, lines 48-51). Crawley further states that "MOSPF is a multicasting extension to OSPF... By adding a new type of LSA, the group membership LSA, MOSPF is able to determine the location of all multicast group members in the network " (col. 1, lines 60-62)." Crawley also states that "As link state routing protocols develop, new types of link state

advertisements are created ... The increased data generates additional traffic on the network and requires additional memory or storage space within each router ..." Col. 2, lines 1-9.

Although Crawley describes the use of two protocols, and an increase in storage, Crawley does not describe a "unicast routing table" and a "muticast routing table" being used together, and in fact Crawley is silent as to how *routing data* may be stored in any of the described situations. In fact, it would appear that Crawley is stating merely that additional storage is necessary for storing the *advertisements*, and that to extend the reading beyond that would be using impermissible hindsight based on the teachings of the present invention.

The Examiner admits that Crawley neither describes nor suggests the use of the two routing tables, but states that it would be obvious to modify Crawley to include two tables because it would "... thereby reduce the resources for storing, network advertisements necessary for routing calculations, as taught by Crawley..." Applicants fail to see how the use of *two* routing tables would 'reduce resources for storing network advertisements' as stated by the Examiner.

In fact, Crawley teaches away from link state advertisements altogether, and rather teaches that the use of Explicit Routing Advertisements (ERAs) is preferable. Because it is an explicitly goal of Crawley to "reduce the amount of router resources use to generate and process network advertisements..." (col. 2, lines 19 and 20) Applicant's respectfully submit that the teachings of Crawley cannot be modified as suggested by the Examiner. Accordingly, because Crawley neither describes nor suggests "a unicast routing table... and ... multicast routing table..." claim 1 is patentably distinct over Crawley, and the rejection should be withdrawn.

No Motivation for the modification suggested by the Examiner

In order for a rejection under 35 U.S.C.§103 to be proper, a motivation for the modification must be shown or suggested by the references. As described above, there is no motivation present or to be inferred in Crawley for modifying Crawley to include two routing tables. In fact, Crawley explicitly teaches away from such a modification. Accordingly, since no proper motivation can be found, the rejection is improper and should be withdrawn.

Claims 2-7, 9-13, 15-20 and 22

Claims 2-7, 9-13, 15-20 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Crawley in view of Haggerty, U.S. Patent No. 6,331,983.

Haggerty describes a method wherein a source receives a multicast packet on an access port, determines a group address of the packet and composes and sends a 'sender present' to other switches in the network. The receiving switches determine whether a local host wishes to join the group and, if so, send a map message back to the source switch. A map message may terminate at a switch on the path that already has a connection for the source/group pair and join into this connection as an additional output port. In this manner, a "signal out, connect back" method is provided for establishing a connection path from the sender to multiple receivers. (Abstract). Haggerty is particularly directed to a multicast environment, and is silent as to how the two environments operate together.

Accordingly, neither Crawley, Haggerty nor the combination thereof describe or suggest the limitations of the independent claims 1, 13 and 17 of "a unicast routing table" and a "multicast routing table", and therefore the claims are allowable for at least that reason. Dependent claims 2-7, 9-12, 15-16, 18-20 and 22 add further patentable limitations to their respective independent claims and are patentable for at least the reasons put forth with regard to those independent claims.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Lindsay McGuinness, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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